Overview: National Offshore Wind Strategy

Offshore wind energy can help the nation reduce its greenhouse gas emissions, diversify its energy supply, provide cost-competitive electricity to key coastal regions, and stimulate economic revitalization of key sectors of the economy. However, key barriers to deployment must be overcome in order for offshore wind to achieve those benefits for the nation, and the Department of Energy (DOE) and Department of the Interior (DOI) are uniquely positioned to provide national leadership in addressing those barriers.

The Strategy identifies the major challenges facing the deployment of offshore wind energy in U.S. waters and lays out a strategy for overcoming those challenges by reducing the cost of offshore wind power and reducing the timeline for deploying offshore wind systems. DOE will undertake these activities through its Offshore Wind Innovation and Demonstration (OSWInD) Initiative, a national effort to develop and deploy offshore wind technology. The Strategic Plan has been informed by substantial input from DOI, other federal partners, offshore wind industry stakeholders, and the public.

Through the Offshore Wind Innovation and Demonstration Initiative, DOE will:

- Support the development of innovative technology capable of lowering the cost of energy produced by offshore wind turbines;
- Provide technical input to regulators to support effective permitting and regulatory decisionmaking;
- Undertake applied research on key project siting issues, such as wind turbine-radar interaction, effects on wildlife, and competing-use impacts;
- Promote the development of infrastructure necessary to support offshore wind energy, such as portside staging and fabrication facilities, specialized turbine installation vessels, and wind equipment supply chain capacity; and
- Partner with developers of the first U.S. offshore wind projects to broaden the knowledge base and accelerate future deployment.

Through these efforts, DOE will help achieve a scenario of 54 gigawatts (GW) of deployed offshore wind generating capacity by 2030, at a cost of energy of 7 cents per kilowatt-hour (kWh), with an interim target of 10 GW of capacity deployed by 2020, at a cost of energy of 10 cents per kWh.

Accelerating the Deployment Timeline

DOE will help reduce the offshore wind deployment timeline through three primary activities: (1) resource planning, which will address wind resource characterization and other data required for coastal and marine spatial planning; (2) siting and permitting, which will address policy and economic analysis, radar interference, regulatory processes, environmental risks, public acceptance, interagency dialogue concerns and risk management; and (3) complementary infrastructure, which will address domestic manufacturing and supply chain development, transmission and interconnection planning, and specialized vessels and other installation, operations and maintenance technology.

Reducing the Cost of Deployment

DOE will help reduce the cost of offshore wind energy through (1) technology development to reduce capital costs, including the development of larger-scale systems with greater generating capacities; (2) applied research and development to decrease installation, operations, and maintenance costs; (3) technical research to decrease financing costs; and (4) turbine innovation to increase energy capture, including the development of larger rotors, longer blades, and taller towers, as well as improved reliability and availability to reduce downtime.